

IN THE CLAIMS

Listing of Claims:

1-15. (Canceled)

16. (Currently Amended) A DNA synthesis reaction composition comprising a DNA synthesis reaction-enhancer comprising at least one kind selected from the group consisting of:

1) transition metal complex, comprising at least one atom of a transition element, and at least one ligand and

2) water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, ~~dextran sulfate, carrageenan, heparin,~~ rhamnam sulfate, ~~dermatan sulfate (chondroitin sulfate B),~~ heparan sulfate, hyaluronic acid, alginic acid, ~~pectin,~~ polyglutamic acids, polyacrylic acids, polyvinyl sulfates, polystyrene sulfates, and DNAs which do not serve as templates for subject DNA synthesis or as primers,

wherein said DNA synthesis reaction composition enhances DNA synthesis, and

wherein said DNA synthesis reaction composition further comprises a DNA polymerase and components necessary for DNA synthesis using DNA polymerase.

17. (Canceled)

18. (Currently Amended) ~~The A~~ DNA synthesis reaction composition ~~according to claim 16, wherein the composition comprises two or more kinds of DNA polymerases.~~ comprising a DNA synthesis reaction-enhancer comprising at least one kind selected from the group consisting of:

1) transition metal complex, comprising at least one atom of a transition element, and at least one ligand; and

2) water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, dextran sulfate, carrageenan, heparin, rhamnam sulfate, dermatan sulfate (chondroitin sulfate B), heparan sulfate, hyaluronic acid, alginic acid, pectin, polyglutamic acids, polyacrylic acids, polyvinyl sulfates, polystyrene sulfates, and DNAs which do not serve as templates for subject DNA synthesis or as primers,
wherein said DNA synthesis reaction composition enhances DNA synthesis, and wherein said DNA synthesis reaction composition further comprises two or more kinds of DNA polymerases and components necessary for DNA synthesis using DNA polymerase.

19-20. (Canceled).

21. (Previously Presented) The DNA synthesis reaction composition according to claim 18, wherein the composition comprises one DNA polymerase having 3'→5' exonuclease activity, and one DNA polymerase having no 3'→5' exonuclease activity.

22. (Currently Amended) ~~A~~ The DNA synthesis reaction composition ~~comprising~~ according to claim 18, wherein each of said two or more kinds of DNA polymerases ~~each~~ is a DNA polymerase having 3'→5' exonuclease activity which is not reduced in comparison to wild-type DNA polymerase.

23. (Original) The DNA synthesis reaction composition according to claim 22, wherein the composition comprises α -type DNA polymerase and non- α , non-polI type DNA polymerase.

24-30. (Canceled)

31. (Previously presented) A kit for use in *in vitro* DNA synthesis, wherein the kit comprises the DNA synthesis reaction composition of claim 16.

32. (Original) The kit according to claim 31, further comprising a reagent usable for DNA synthesis.

33. (Canceled)

34. (Previously Presented) The kit according to claim 31, wherein said DNA polymerase is a thermostable DNA polymerase.

35. (Canceled)

36. (New) A kit for use in *in vitro* DNA synthesis, wherein the kit comprises the DNA synthesis reaction composition of claim 18.

37. (New) The kit according to claim 36, further comprising a reagent usable for DNA synthesis.

38. (New) The kit according to claim 36, wherein said DNA polymerase is a thermostable DNA polymerase.